

In the Claims:

1. (Currently amended) A power generation system, comprising:
an internal combustion engine configured to provide rotational mechanical energy;

a generator configured to receive the rotational mechanical energy and generate electrical power in response to the rotational mechanical energy;

a power electronics device coupled to the generator to transform the electrical power generated by the generator, the power electronics device having the capability to modify and convert the electrical power to one or more of selective forms; and

a fluid medium provided to the internal combustion engine, and to the generator for removing thermal energy from the internal combustion engine and from the generator.

Claims 2-5 (Canceled).

6. (Currently amended) The system according to claim 5 1 wherein the fluid medium is provided to the power electronics device for removing thermal energy from the power electronics device.

7. (Original) The system according to claim 1 further comprising a gear box coupled between the engine and the generator, the gear box transmitting the rotational mechanical energy between the engine and the generator.

8. (Original) The system according to claim 7 wherein the fluid medium is provided to the gear box for removing thermal energy from the gear box.

Claim 9 (Canceled).

10. (Original) The system according to claim 1 further comprising a shaft coupled between the engine and the generator, the shaft transmitting the rotational mechanical energy between the engine and the generator.

11. (Currently amended) The system according to claim 1 further comprising a at least one or more flywheels ~~flywheel~~ coupled between the engine and the generator, the each flywheel transmitting the rotational mechanical energy between the engine and the generator.

12. (Original) The system according to claim 1 further comprising a shaft and a flywheel coupled between the engine and the generator, the flywheel and the shaft providing the rotational mechanical energy between the engine and the generator.

Claims 13-14 (Canceled).

15. (Original) A method for generating power, comprising:
providing a generator;
providing rotational mechanical energy to the generator and producing an output of electrical power in response to the rotational mechanical energy, the electrical power comprising a selectable frequency output; and
providing a fluid medium to the generator for removing thermal energy from the generator.

Claim 16 (Canceled).

17. (Currently amended) The method of claim ~~46~~ 15 wherein the rotational mechanical energy is provided by an engine, and wherein the fluid medium is provided to the ~~internal-combustion~~ engine for removing thermal energy from the engine.

18. (Original) The method of claim 15 wherein the output of the electrical power comprises a selectable voltage output.

19. (Original) The method of claim 15 further comprising coupling a power electronics device to the generator for selectively modifying the output of the electrical power.

20. (Original) The method of claim 19 wherein the fluid medium is provided to the power electronics device for removing thermal energy from the power electronics device.

21. (New) A power generation system, comprising:

- a rotational power source component configured to provide rotational mechanical energy;
- a generator component configured to receive the rotational mechanical energy and generate electrical output in response to the rotational mechanical energy;
- a fluid medium component configured to remove thermal energy from the rotational power source and from the generator; and
- a control unit configured to manage cooperation between the components of the system to optimize capabilities of the system to address different applications requiring different power demands.

22. (New) The system according to claim 21 wherein the control unit comprises the capability to perform at least one of the following functions:

monitor the components of the system;

diagnose problems within the components of the system;

control the components of the system;

annunciate status of components of the system; and

act as an interface for local and/or remote monitor and control of the components of the system.

23. (New) The system according to claim 21 wherein the control unit comprises the capability to collect, share and transmit pertinent data information between components of the system to manage and optimize the collective cooperation between the components.

24. (New) The system according to claim 21 further comprising the capability to provide a plurality of electrical outputs in response to a plurality of electrical load demands.

25. (New) The system according to claim 21 further comprising a power electronics device coupled to the generator to transform the electrical power generated by the generator, the power electronics device having the capability to modify and convert the electrical power to one or more of selective forms.

26. (New) The system according to claim 21 wherein the control unit comprises a package control unit, power electronics control unit, generator control unit and rotational power source control unit wherein collectively the control units have the capability to monitor any one of the following aspects of the power generation system: horsepower input, torque input, speed input and output, system component temperatures, electrical power output, power factor, voltage input and output, and power type.

27. (New) The system according to claim 21 wherein the control unit optimizes capabilities to provide a maximum available electrical output as defined by at least one of the following: by the user and by the integration of cooperation between respective components of the system.